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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,965	03/22/2004	Katsuya Watanabe	10407-82US (A3103MT-US1)	1679
570	7590	12/12/2006	EXAMINER	
AKIN GUMP STRAUSS HAUER & FELD L.L.P. ONE COMMERCE SQUARE 2005 MARKET STREET, SUITE 2200 PHILADELPHIA, PA 19103			TRAN, THANG V	
			ART UNIT	PAPER NUMBER
			2627	

DATE MAILED: 12/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/805,965

Applicant(s)

WATANABE ET AL.

Examiner

Thang V. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-19 is/are rejected.
- 7) ☒ Claim(s) 8,9 and 20-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                 | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7 and 11-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Iida (US 6,424,605).

Regarding claim 1, see Figs. 3 and 9 which disclose a method for recognizing at least two types of optical discs (CD, DVD), which are associated with multiple different numerical apertures (0.45 for CD objective lens, 0.6 for DVD objective lens), the method comprising the steps of: setting the numerical aperture (0.45) of focusing means (CD objective lens) equal to a first one of the multiple different numerical apertures (see step 102), the focusing means being used to focus a light beam on a data storage layer of a given optical disc, the first numerical aperture (0.45) being smaller than any of the other numerical apertures (0.6); and recognizing (see step 108) the type of the given optical disc by the first numerical aperture that has been selected in the step of setting the numerical aperture.

Regarding claim 2, see Figs. 3 and 9 which disclose an apparatus for recognizing the type of a given optical disc by controlling an optical disc drive, which accesses at least two types of optical discs (CD, DVD) associated with multiple different numerical apertures (0.45, 0.6), the apparatus comprising: setting changing means (30.31) for setting the numerical aperture (0.45) of focusing means equal to a first one of the multiple different numerical apertures, the focusing

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means (objective lens) being used to focus a light beam on a data storage layer of the given optical disc, the first numerical aperture (0.45) being smaller than any of the other numerical apertures; and recognizing means (30) for recognizing the type of the given optical disc, loaded in the optical disc drive, by the first numerical aperture (0.45) that has been selected by the setting changing means.

Regarding claim 3, see Figs. 3 and 9 which disclose an optical disc drive for accessing at least two types of optical discs (CD, DVD), which are associated with multiple different numerical apertures (0.45, 0.6), the optical disc drive comprising: focusing means (objective lens) for focusing a light beam on a data storage layer of a given optical disc at a changeable numerical aperture; detecting means (detector 5a or 5b) for detecting light that has been reflected from the given optical disc, on which the light beam was focused by the focusing means; setting means (30, 31) for setting the numerical aperture (0.45) of the focusing means equal to a first one of the multiple different numerical apertures, the first numerical aperture (0.45) being smaller than any of the other numerical apertures; and recognizing means (30) for recognizing the type of the given optical disc by a signal (tracking error signal) representing a reflected and detected portion of the light from the optical disc on which the light beam was focused at the first numerical aperture that had been selected by the setting means.

Regarding claim 4, see Fig. 10 which further discloses that the setting means (see step 117) selects one of the multiple different numerical apertures after another in an ascending order by beginning with the smallest, first numerical aperture, and wherein the recognizing means determines (steps 114, 115), by the signal (TE) representing the reflected and detected portion of the light from the optical disc on which the light beam was focused at the numerical aperture that

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had been selected by the setting means, whether the given optical disc is a type associated with the numerical aperture currently selected.

Regarding claims 5 and 6, see Fig. 3 which also show the use of: light source means (4a, 4b, 20a, 20b) for selectively emitting one of a plurality of light beams with multiple different wavelengths (780nm, 650nm) corresponding to the multiple different numerical apertures; and wavelength selecting means (23, 31) for setting the wavelength of the light beam emitted from the light source means equal to a first one of the multiple different wavelengths when the setting means sets the numerical aperture of the focusing means equal to the first numerical aperture, the first wavelength (780nm) being longer than any of the other wavelengths, wherein the focusing means (objective lens) focuses the light beam that has been emitted from the light source means.

Regarding claim 7, see the rejection applied to claim 4 above.

Regarding claims 11 and 13, see column 6, line 66 to column 7, line 12, for limitations of the multiple different wavelengths include at least one of the ranges of: 400 nm to 410 nm; 645 nm to 660 nm; and 775 nm to 795 nm.

Regarding claims 12 and 14, see column 7, lines 2- 12, for limitations of multiple different numerical apertures include at least one of the ranges of:  $0.85+0.01$  to  $0.85-0.01$ ;  $0.6+0.01$  to  $0.6-0.01$ ; and  $0.50+0.01$  to  $0.50-0.01$ .

Regarding claim 15, see Fig. 5 for limitations of the signal representing the detected portion of the reflected light includes at least one of a focus error signal, a tracking error signal, a signal representing the quantity of the reflected light and a read signal.

Regarding claim 16, see the rejection applied to claim 1.

Regarding claim 17, see the rejection applied to claim 2 or 3.

Regarding claim 18, see the rejection applied to claim 3.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iida (US 6,424,605) in view of Ra (US 5,671,203).

Iida, according to Figs. 3-9, discloses all of limitations of the instant claimed invention (see the rejection above) except for the use of counting means for counting the number of the data storage layers of the given optical disc. Ra, according to Figs. 2-4B, teaches the of counting means (see counter 21 in Fig. 2 and Fig. B) for counting the number of the data storage layers of a loaded optical disc for the purpose of determined whether the load disk is a single layer disk or multilayer disk. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the counter as taught by Ra into the apparatus of Iida for counting the number of the data storage layers of the loaded optical disc in order to determine whether the load disk is a single layer disk or multilayer disk .

***Allowable Subject Matter***

5. Claims 8,9 and 20-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 8, 9 and 20-24 are allowable over the prior art of record because the prior art of record, viewed as closest prior art and considered alone or combination, fails to suggest or fairly teach an optical disc drive for at least two types of optical discs include light beam passage layers with multiple different thicknesses to pass the light beam, and the optical disc drive includes a combination of: spherical aberration correcting means for correcting a spherical aberration produced on the spot of the light beam that has been focused on the data storage layer of a given optical disc; and spherical aberration regulating means for setting the magnitude of correction to be made by the spherical aberration correcting means equal to a first correction value when the setting means sets the numerical aperture of the focusing means equal to the first numerical aperture, the first correction value being associated with the largest one of the multiple different thicknesses as recited in claim 8, or an optical disc drive for the at least two types of data storage layers are located at mutually different depths as measured from a principal surface of a given optical disc, and the optical disc drive includes: vertical position changing means for moving the focusing means perpendicularly to the data storage layers; and shifting means for getting the light beam focused on the deepest one of the data storage layers first, the second deepest one next, and so forth toward the surface of the given optical disc, by driving the vertical position changing means while a distinguishing means is distinguishing the given data storage layer as recited in claim 20. Claim 9 and 21-24 are allowable with their respective parent claim.

#### *Cited References*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references relates to an optical apparatus for recording/reproducing information from different types of optical disks having disk discrimination device, a plurality


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of objective lenses or aberration correction device for correcting a position of a light beam focused on a discriminated disk.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thang V. Tran whose telephone number is (571) 272-7595. The examiner can normally be reached on M-F 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen Hoa can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Thang V. Tran  
Primary Examiner  
Art Unit 2627